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Paperwork and the decoupling of audit and animal welfare: The challenges of materiality for better regulation

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Abstract

This article uses the case of animal welfare to contribute to academic debates about audit and better regulation reforms designed to reduce administrative burdens and increase regulatory effectiveness. Combining desk-based policy document analysis, on-farm field visits, and 31 interviews with livestock farmers and animal health and welfare inspectors in England, it explores farmers' record-keeping practices and the contrasting role regulatory records are understood to play in assurance and good animal husbandry by farmers, regulatory inspectors, and veterinary experts. Farmers experience record-keeping as something they must do to satisfy external regulatory demands rather than anything that good farmers might themselves use in caring for their livestock. As a result they regard paperwork as burdensome and often fail to comply with record-keeping requirements. By contrast, inspectors and animal welfare experts frame record-keeping and analysis as central to good animal husbandry and to a properly anticipatory approach to managing animal health and welfare. Those veterinary-medical presumptions about farm practice inform both the design of specific animal welfare record-keeping requirements and their self-effacing conceit as being about peering over the farmer's shoulder to audit already existing records. Our findings highlight the dual tendency for the practice of regulatory record-keeping to become decoupled from both the formal requirements and from the quality of care that paperwork is meant to assure. Our analysis extends the critical literature on audit and regulation by drawing on the materialist tradition of science and technology studies to elucidate how this decoupling is shaped by the physical form and materiality of records themselves.

Keywords

Audit, animal welfare, better regulation, inspection, farm assurance, governance, materiality, paperwork

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Introduction

Alongside feeding, mucking out and other work caring for animals, livestock farming also involves increasing volumes of regulatory reporting and paperwork. Reducing those administrative burdens has been a central aim of ‘better regulation’ reforms internationally (Braithwaite, 2008; Hood and Dixon, 2015; Radaelli, 2007). ‘Better regulation’, Defra (2014) promises, ‘can encourage economic growth by freeing business from unnecessary regulatory burdens and contribute to improving the environment and protecting human health’.

To achieve those aims, successive UK Governments and the European Commission have made a number of reforms to regulatory reporting and inspection requirements. First, rather than inspecting all businesses, the Commission is now encouraging – and the UK Government formally requires (BERR, 2007) – regulators to use ‘risk-based’ prioritization to target enforcement activities on those businesses posing the greatest non-compliance risks (Demeritt et al., 2015). Thus, farmers who join approved private assurance and certification schemes can ‘earn recognition’ and face less frequent government inspections. Second, new better regulation guidelines now formalize the long-standing expectation that ‘regulators should collectively follow the principle of “collect once, use many times,” when requesting information from those they regulate’ (BIS, 2014, paragraph 4.1; cf. EC, 2015). Finally, in an effort to avoid command-and-control regulation altogether, governments increasingly look to private regulation by business and civil society organizations (Vogel, 2008) and to libertarian paternalist techniques of ‘nudge’ (Jones et al., 2014), such as information disclosure and education, to achieve their policy goals through voluntary behaviour change rather than state coercion.

In this article, we use the case of animal welfare regulation to explore the practical challenges of squaring the better regulation circle of increasing regulatory effectiveness while also lowering compliance costs. Over the last two decades the volume of animal welfare regulation has increased substantially (Ransom, 2007), in response both to mounting public concern with food safety, quality and ethical consumerism and to supply-side shifts in an increasingly global agri-food system (Busch and Bain, 2004; Freidberg, 2004; Higgins and Lawrence, 2007; Smith et al., 2004). The Macdonald et al. (2011, paragraph 5.01) review of farming regulation found that ‘if there is a single “universal” complaint from farmers...it is paperwork. Almost all consultees identified “forms” as the single most burdensome and arduous aspect of any regulation’. However, research on regulation of food and agriculture has focused on the politics of standard-setting (Bain et al., 2013; Davey and Richards, 2013; Loconto and Busch, 2010; Miele and Lever, 2013) and on diagnosing the drivers and distributional implications of the shift from state-centred regulation to more networked and private governance (Buller and Roe, 2014; Fuchs and Kalfagianni, 2010; Guthman, 2007; Henson and Reardon, 2005; Lockie, 2008; Marsden, 2013). Practical implementation and the effectiveness of regulatory inspection and reporting requirements have largely been ignored by political geographers and agro-food scholars. Our article addresses that gap. It focuses on animal welfare reporting and record-keeping and the roles that they play in regulatory assurance and animal care.

In doing so, we also address an important puzzle facing animal welfare regulators in the UK. Despite concerted efforts by Defra to clarify the legal requirements, official statistics show that record-keeping violations are by far the most common breach of animal welfare regulations in England. Rather than poor care, farmers are facing fines for poor paperwork.

The reasons for this non-compliance and its implications for animal welfare outcomes are poorly understood (Escobar and Buller, 2014), prompting the UK Department for Environment, Food and Rural Affairs (Defra) to commission the research reported here. Combining desk-based review methods with original interviews and field visits with livestock farmers, this article analyses farmers' record-keeping practices and the tensions between their understandings of record-keeping and of good animal husbandry and those articulated by Defra (2003b; FAWC, 2011), animal welfare experts (Main et al., 2014), and by front-line inspectors responsible for enforcing animal welfare regulations.

Conceptually our analysis extends recent work in critical social science on audit and paperwork. Research in policy studies and public administration has highlighted the dual tendency for audit processes both to become decoupled from the qualities they are meant to assure and to become an end in themselves, distorting performance and promoting tick-box compliance. At the heart of audit is paperwork, which Science and Technology Studies (STS) has approached as a technology materializing the political and embodying scripts designed to shape the identity and behaviour of users. Those literatures are reviewed in the second section of the article followed by a description of our data and methods. Three further sections discuss how farmers and inspectors engage with the three types of animal welfare records required by government guidance and regulation: mortality records, medicine records and farm health plans (FHPs). The article closes by reflecting on the significance of our findings for academic debates about audit, animal welfare and better regulation.

Audit, assurance and animal welfare regulation

Traditionally animal welfare law in England has emphasized enforced self-regulation (Braithwaite, 1982). Although there is a long history of British legislation to prevent cruelty and protect animals, it is largely principles-based, imposing broad duties on farmers rather than mandating detailed rules for animal welfare (Woods, 2011). To flesh out those broad duties and provide guidance as to what they entail, farmers were encouraged to follow voluntary, but recommended, codes of practice (e.g. MAFF, 1969).

In recent years, however, the volume, stringency and reach of animal welfare regulations have increased substantially. Private welfare standards have proliferated (Bain et al., 2013; Henson and Reardon, 2005). Although ostensibly voluntary, their requirements are difficult for farmers to ignore insofar as certification is required by the major retailers (Davey and Richards, 2013). Statutory welfare regulation has grown as well, driven by a steady stream of European directives through the 1990s and 2000s seeking to harmonize animal health, welfare and food safety standards across the EU. Reforms to the Common Agricultural Policy (CAP) imposed further reporting requirements on farmers. In total, British livestock farmers are subject to 26 different kinds of on-farm inspection from eight different government agencies (Defra, 2013b), as well as other checks by private sector assurance schemes.

Responsibility for enforcing statutory animal welfare regulations in England is divided between several dedicated inspectorates and levels of the state. Generalist auditors from the Rural Payments Agency check compliance with various record-keeping requirements under so-called 'cross-compliance' inspections mandated by the CAP, while specialist veterinary inspectors from the Animal and Plant Health Agency (APHA)¹ assess compliance with health and welfare standards and other requirements set out by the EU Animal Welfare Directive (98/58/EC). APHA also conduct animal welfare inspections on behalf of some local authorities. Many local authorities also employ their own inspectors to discharge their

statutory responsibilities for enforcing animal welfare regulations in England. Inspectors have a range of powers for responding to any regulatory breaches uncovered by their audit and inspection activities. As well as advice and guidance, they can also deploy an escalating 'enforcement pyramid' of more punitive sanctions against non-compliant farmers, who may see their CAP subsidies reduced² or face civil penalties and prosecution for more serious violations.

Such audit-based approaches to regulatory enforcement have become increasingly common – and controversial – in Britain. Geographers and anthropologists have often approached audit under the sign of neoliberalism (Enticott, 2014; Larner, 2003; Shore and Wright, 2015; Strathern, 2000; White, 2016). Thus in agro-food studies, the proliferation of private standards audited by third party certifiers is often cited as a hallmark of the neoliberalization of the global food system (Guthman, 2007; Haggerty et al., 2009; Lockie and Higgins, 2007). However, Kipnis (2008) highlights the ambiguity of this association, whose force and meaning vary depending on the place and disciplinary circuits in which ideas of audit and neoliberalism are invoked. From political science, Moran (2003) and Hood et al. (1999) associate audit with the demise of an old style of secretive and unaccountable 'club government' in Britain and the emergence, in its place, of a 'regulatory state', based on principles of new public management. From a governmentality perspective, audit and assurance schemes are often theorized in terms of a shift in the instruments of governance, as command-and-control regulations give way to less direct and typically non-statutory approaches to achieving regulatory goals through attitude and behaviour change interventions like education and information disclosure (Jones et al., 2014; Rose et al., 2006).

Critics have highlighted several perverse and unintended consequences of governing through audit (Power, 1997). First, auditing records to assess regulatory compliance tends not only to displace the original purpose for keeping them but also to colonize organizational identity and distort performance (Rothstein et al., 2006). In England, the introduction of performance measurement systems has encouraged schools and hospitals to hit their auditable targets at the expense of less measureable qualities of education and health care (Bevan and Hood, 2006; Mannion and Braithwaite, 2012; Wilson et al., 2006), while also generating vast quantities of paperwork to feed audit systems that divert resources and managerial attention from other organizational priorities (Ashworth et al., 2002; Brewer and Walker, 2010; Singleton, 2012).

Second, basing regulatory enforcement on audits of organizational paperwork and record-keeping tends to decouple compliance judgments from the outcomes those processes are meant to assure. Bromley and Powell (2012) distinguish two types of decoupling to which audit and quality assurance processes are prone. First, their requirements are often ignored in practice. For example, farmers may fail to record, as they are required, exactly when on-farm mortalities are discovered and then struggle to assemble their paperwork afterwards and keep their practices aligned with the reporting requirements. This first type of 'policy-practice decoupling' may arise unwittingly or more strategically based on how much corner-cutting regulatees think they can get away with. Bromley and Powell's second type of 'means-ends decoupling' occurs when formal rules are observed to the letter but fail to achieve their stated aims. In this case, audit becomes purely performative: farmers fulfil regulatory requirements by form-filling rather than actually delivering animal care. Similar complaints have been made about the rituals of academic quality assurance, which emphasize adherence to procedure over substantive educational outcomes (Strathern, 2000).

In contrast to this focus on organizational responses to audit, a complimentary strand of STS-inspired research has sought to understand the ways in which objects, like audit trails and paperwork, materialize the political and become consequential as ‘things that force thought... and are active parties in political disputes’ (Braun and Whatmore, 2010: xxiv). Drawing on this more-than-human understanding of politics and its modalities (Donaldson et al., 2013; Latour, 2007), Barry (2013) describes how ‘the operation of transparency configures as “public” certain objects and problems in the expectation that this will enable the form and intensity of public debate to be contained’ (p. 11) but paradoxically ends up ‘generat[ing] new concerns, sites and problems about which it matters to disagree’ (p. 5). Accordingly, Barry emphasizes the analytical importance of attending to ‘the boundaries between what is rendered public and what is not’ and the role of materials in effecting it (p. 12). The tensions between what is on and off the record are as old as writing itself, as Vismann (2008) shows in her history of filing technologies. From the clay tablets and scrolls of the ancient world to the computer files of the digital age, Vismann (2008: xii) shows how files literally ‘process the separation of law into authority and administration’, creating the distinction between ‘abstract law on one side and the agencies that set down and enforce the law on the other’ on which the impartial rule of law depends. However, these distinctions do not always hold in practice. In his ethnography of urban governance in Pakistan, Hull (2012) shows how paper, in the form of maps, permits and petitions, is a source of power, but one that bureaucrats are not always able to control because of resistance both from subaltern groups and from the very medium itself whose materiality – the difficulties of storage, retrieval and authentication and of reliable replication and transmission – defied their designs.

This agonistic approach to the political and the agency of unruly materials in it builds on an older tradition of STS research on the social shaping of technology. From this perspective technologies do not have fixed capacities; rather their material form, meaning and effectivity as heterogeneous assemblages are shaped through what Latour (1987) calls the ‘trials of strength’ between users and the behavioural ‘scripts’ built into them (Akrich, 1992). Unlike the symbolic interactionist approach to the ‘cultural scripts’ performed by farmers in responding to bovine TB (Vanclay and Enticott, 2011), this STS approach recognizes the power of objects themselves to object to the scripts projected upon them. It provides an alternative to neo-functionalist accounts of policy ‘spill-over’ (Strøby Jensen, 2013; Zito, 1999) for explaining the capacity of audits and other regulatory instruments, like flood maps (Porter and Demeritt, 2012) or the British Cattle Tracing System (Singleton, 2012), to generate controversy and produce unintended consequences. This generative quality of materiality suggests that the challenges to better regulation may not lie solely in the organizational pathologies of audit, but also in the practical difficulties of successfully adapting the paperwork itself to different purposes.

Methodology

To explore these questions, the paper draws on 31 in-depth interviews with pig and dairy farmers ($n=25$) and front-line animal welfare inspectors ($n=6$: 4 government inspectors and 2 private certifiers) in England, as well as desk-based policy document analysis and field visits to 7 dairy and 9 pig farms to observe farm records and record-keeping first-hand. Research focused on dairy and pig farms because these sectors have the highest rates of compliance with record-keeping requirements. As such their study might identify lessons for

the less compliant sheep and beef cattle sectors. On the other hand, if problems with paperwork are experienced in even the most compliant livestock sectors, they are likely to be more widespread and severe elsewhere.

Participating farmers were recruited through industry trade bodies – British Pig Executive and DairyCo – whose regional field operators approached farmers with an invitation letter describing the research and asking for volunteers willing to be interviewed and/or entertain on-farm site visits. The pig farms visited ranged from a lone farmer enterprise with less than 25 breeding sows to large commercial operations with >1000 breeding sows, or more than twice the national average of 447. Dairy farms in the sample varied much less in size, ranging from just below the national average of 125 milking cows to several with over 300 cows. However, even the largest farm had less than 10 employees, making them typical of the 98% of farm in England classed as ‘micro-businesses’ (Macdonald et al., 2011, paragraph 1.07).

Interviews focused on record-keeping practices, how records are used by farmers and inspectors, and on informants’ understandings of animal welfare, good animal husbandry and the regulatory process. Analysis involved inductive coding to identify emerging themes, which were compared across informant type and then cross-checked against the official guidance for government inspections, the views expressed by inspectors, and first-hand observations of records and record-keeping from the on-site farm visits. In the analysis that follows, informants are identified by an individual alphanumeric code (F = Farmer; I = Inspector).

Animal record-keeping: Welfare requirements and uses

Farmers in England are legally required to keep a variety of records on their stock and to make these available for auditing by government inspectors. Our analysis focuses on the three major types of records used for animal welfare regulation: mortality records, medicine records and FHP.

Mortality records

The legal requirement of the current Welfare of Farmed Animals (England) Regulations 2007 (WOFAR) for farmers to maintain a record ‘of the number of mortalities found on each inspection of animals’ has its origin in a series of European Directives passed in the early 1990s to harmonize the common market. In the shadow of the BSE crisis, the Animal Registration Directive (92/102/EEC) required farmers to record the birth, movement and mortality of all farmed cows, pigs, sheep and goats. In a classic form of Monnet-style of ‘Europeanization by stealth’ (Weale, 1999), these registration records were then tapped for other purposes, including CAP subsidy administration (Council Regulation EEC 3508/92), biosecurity monitoring (Council Directive 97/12/EC), and food labelling (Regulation 1760/2000/EC). This same process saw the scope and purpose of mortality records expanded further to speak for animal welfare. As well as setting out broad standards for farm animal care, the Animal Welfare Directive (98/58/EC) mobilized record-keeping as an assurance mechanism. Annex 1 required farmers to record mortalities for all farmed animals, rather than just those covered by 92/102/EEC, to keep those records for three years, and to make them ‘available to the competent authority when carrying out an inspection’.

Animal welfare inspectors see these records as key to ensuring the health and welfare of farm animals. Beyond simply verifying the existence of the required mortality records,

inspectors also reported routinely looking at them to inform their judgments of whether farmers were delivering appropriate care. I6 explained how s/he used them to start conversations with the farmer about care:

you will check that period of mortalities [and if the farmer explains] these calves were very poorly [then you say] well then, show me on your records that you treated them... and you did try to improve their health?

Mortality records provide front-line inspectors an indicator of welfare problems and standards.

Inspectors wanted farmers to use their mortality records in this same way: to monitor and assess welfare standards. All of the inspectors interviewed emphasized the importance of record-keeping for controlling death on the farm. Without records farmers

cannot make linkages between why suddenly at the end of the rearing period they've had a 6% mortality when the previous six months they've had 3% (I1).

Nor can they know, 'if they are getting more calf deaths in the winter?...or was it in the spring?' (I2), which would suggest a different cause.

Inspectors had a normative vision of the 'good' farmer as an analytical farmer, using records to monitor on-farm performance, set targets for improvement, and assess progress at meeting them. While the formal requirements for animal welfare record-keeping appear quite light-touch, meeting inspectors' informal expectations was more demanding. Beyond simply recording mortality, inspectors also wanted farmers to analyse and act on their records as well. This expectation that 'Recording of mortalities is a useful management tool' is written into the guidance document given to APHA (2014) inspectors about what to look for when assessing compliance with WOFAR duties.

But these ideals of animal welfare practice were not always reflected in the wording of WOFAR regulations. To minimize regulatory burdens the Welfare Directive allows farmers to satisfy its record-keeping requirements with 'equivalent information...kept for other purposes'. Thus when asked about their mortality records, many farmers referred to the records they kept on carcass disposal under the Animal By-Products (Enforcement) (England) Regulations 2011 and Regulation (EC) 142/2011. Dairy farmers often pointed to their animal movement records. Cattle are individually tagged and farmers must report the date of each individual death to the British Cattle Movement Service within 7 days (Singleton, 2012). Using movement records for mortality was more difficult for pig farmers, because pigs are not registered individually but with a County Parish Holding Number for tracing pork back to its source, but farmers had many other ways of reworking existing records to satisfy the Directive's mortality record-keeping requirements. Without definitive guidance, their practices varied widely within and between livestock sectors. Some looked to records kept about the productivity (i.e. milk volumes or piglet production) and dates of insemination and farrowing/calving of individual animals, while others used herd-level inventories and sought to derive the number who died on-farm by comparing herd-sizes over different rearing periods and subtracting the number taken to slaughter.

Such alternative records were not always acceptable to inspectors, despite the allowances made for them in the Welfare Directive. APHA (2014) guidance for inspectors explained:

Key livestock sectors likely to be recording less frequently are sheep and pigs, who may record final numbers alive at the end of a rearing period and calculate the difference from live births recorded. This is not acceptable for meeting WOFAR or XC [EU cross-compliance] requirements.

However, front-line inspectors found that interpreting those requirements was 'a bit of a grey area' (I6) and used discretion in assessing compliance. They found 'a lot of the failings were on mortality records', (I1) because 'farmers don't really know the difference between mortality records and their animal by-product records' (I6). For the former farmers must note the date they discovered any on-farm mortality and retain these records for three years, whereas the latter require them to record how they disposed of the carcass and retain those records for just two years. Compliance with the latter was generally better than the former:

in my experience... I don't find the average situation I go to, that they have very accurate, if indeed any, mortality records. They will faithfully keep their receipts if things have had to go to the knacker as in their animal by-products regulations... but you won't have any sort of sensible records of mortality... I think it's something that's really lacking with most farmers (I5).

Generating the records required by law was not sufficient for the sort of anticipatory analysis endorsed by Defra's (2003b) own Code of Recommendations for the Welfare of Livestock. Additional effort was needed:

We do keep, we do know what has died on farm, and calves and cows and whatever is gone, but it's hard to get the information in the movement book. It's all there, but it takes time to find out every cow that died from this November to last November; it would take me a good hour, sitting down to go through it all (F4).

But beyond the work this required, there are at least two other reasons why farmers are not acting on their mortality records as regulators imagine that they should.

First, mortalities are not unusual on a farm. As long as the numbers seem low, farmers do not bother investigating the reasons for any particular death (Palmer et al., 2009). A number of informants reported not getting 'too uptight about reasons for it when it's at that level' (F24). Mortality only becomes a matter of concern when it exceeds expectations. As F14 explained:

because we do have a very low level of mortality, it's not very important to us, so it's not something I continually chase.

While inspectors might retort that there is no way of knowing if mortality is low without analysing their records, farmers are comfortable making that judgment intuitively. For farmers, the purpose of mortality records is proving to *other* people what they already know themselves through daily interactions with their livestock.

Second, death is not only normal on a farm; it is also very difficult to account for. On pig farms, even counting losses is difficult:

Piglet losses is a difficult one. They're outdoors, they get lost in the straw, yes, and we don't know who died (F15).

Farmers are conscious that disturbing post-partum sows to count their piglets and thereby get better data might actually increase mortality. Counting dead calves is less problematic as they are bigger, born in smaller litters, and not liable to being eaten by their mothers like dead piglets. But identifying the causes of death in cows is no less difficult, as F10 explained:

Mortality is a difficult one in cows because it does go in trends but you can't often find out why.

Pig farmers also find explanation elusive:

We know in most of our herds that it's either going to be a small pig, a death unexplained... unexplained are over half... a lot of deaths are unexplained (F24).

More fundamentally, farmers do not see the value in mortality analysis. Explaining the causes of death *ex post* seemed beside the point:

We can give ourselves a culling rate...but if an animal dies it's no good analysing it. It's dead...What can you do about it? (F5).

This farmer was not uncaring. S/he saw no point in looking back because mortality is so capricious and difficult to prevent. This sense of impotence in the face of death was often echoed by other farmers:

It could be unfortunate, we just had a couple of animals die because we sort of got a little bit of pneumonia in there or, you know, or just a couple of cows died during calving, and there's nothing much you can do about that (F6).

Farmers felt like death was a matter of misfortune (cf. Andrews et al., 2006). It might be counted and recorded after the fact, but there is nothing much that could be done to prevent it. Accordingly, farmers see the work required to record mortality as burdensome paperwork and not an integral part of good stockmanship. This decoupling of animal welfare paperwork from practice is even more noticeable in the case of medicine records.

Medicine records

In addition to mortality, WOFAR also requires farmers to record 'any medicinal treatment given to animals'. This demand is directly transposed from the Animal Welfare Directive (98/58/EC). As with mortality, the Directive promised to minimize administrative burdens by repurposing a host of already existing EU record-keeping requirements for assuring compliance with other regulations controlling the use of special or prohibited substances in animal husbandry (Regulation 85/649/EEC), classifying organic farms (Regulation EEC/2092/91), and preventing product residues entering the food chain (Council Directive 96/23/EC).

Animal welfare inspectors look closely at these records. APHA (2014) guidance specifies that they 'should ask to see any medicines and product invoices present on the farm and be satisfied that their use is being recorded'. Verifying the existence and accuracy of these records is required for assessing compliance not just with welfare standards, but also with food safety and biosecurity regulations. In STS terms, it is the immutability of the medicines records that allows them to be mobilized to speak, authoritatively, to such a multiplicity of regulatory purposes. As these purposes proliferated, the assurance that the medicine records originally provided 'to the assessor that...withdrawal periods are met before an animal goes to slaughter or their milk is used' (I4) was inverted. Rather than looking for the absence of medicine use, animal welfare inspectors looked to those same records for assurance that medicines were being administered to care for animals. As I6 explained:

The only way for us to know if the farmer is doing a good job is seeing that he is doing a lot of treatments... If he doesn't keep the records, we don't know.

Inspectors frequently highlighted the value of medicine records as an indicator of animal welfare. A quick scan of the records could reveal whether there had been any animal health problems and whether farmers were providing appropriate treatment. 'The medicine records for me are an indication that the animals are receiving a level of care, whether that's preventative or reactive', explained I5. Inspectors related how much they

could glean about the quality of on-farm animal care from the wear and tear on the medicine book itself:

It's very interesting to see that sometimes the medicine book is written all in the same colour pen. I did one visit and it was all written in a silver pen. Different dates. And I said do you always use a silver pen to write your medicine record with? But it was very clear that he had just written it in quickly the day before. He might have had it in other little pieces of paper (I6).

While inspectors themselves use the records for auditing regulatory compliance, this is not what they understand their true purpose to be. Rather than providing an audit trail for external inspection, medicine records are framed by regulators as an essential tool for farmers themselves to use in improving animal welfare and productivity. Farmers 'cannot work on reducing medicine bills if [they] don't know what [they're] actually giving the medicines for' (I1). Official guidance from Defra's Veterinary Medicines Directorate (VMD, 2012, page 5) also emphasizes to farmers 'that it may be in your commercial interest' to keep and use medicines records.

At the herd level, epidemiological analysis of the medicine records can help farmers prevent recurring problems by identifying whether they are 'typically seeing spikes in some respiratory disease in autumn and spring' (I2), for example. At the individual animal level, inspectors expect that medicine records would also help determine when to end the suffering of an animal unlikely ever to recover.

Farmers, however, understand the practice of animal husbandry and the place of record-keeping within it in some different ways. Rather than analysing records before deciding what to do, F7 insisted that s/he would know right away:

I'm quicker than that, so if I've got a report [from the milking parlour] and every other cow with digital dermatitis, I would be going down today to try and investigate why... I don't wait until next month to analyse it.

In other words, farmers discover problems through their daily practices of care, not by analysing their records. This emphasis on daily observation and interaction over records and analysis was common among all farmers, regardless of herd size. Similarly, they cited good stockmanship, rather than records, as key to knowing whether an animal is recovering. This, in turn, is understood as involving a direct relationship with the animal (Singleton, 2012). Farmers look to their animals, rather than their records about them, when deciding whether to cull the sick:

Either I give her an antibiotic and she gets over it or she's out. And then I've got to make a decision. It's quite straightforward. Is she fit to walk up the back of the lorry on four legs and if she's not, bang, that's it (F3).

So, at the individual level as well, stockmanship prevails over the kind of records-based, scientific analysis idealized by veterinary experts and welfare inspectors.

Even if farmers were inclined to use their records in that way, their physical form inhibits epidemiological analysis. Many farmers keep daybooks and farm diaries in which they record medicine usage, but their chronological structure makes it difficult to pick out information either about individual animals or the herd as a whole. Nor are the templates offered by farm assurance schemes for recording medicine usage much better. These records are designed to protect the human food chain by accounting for the purchase, administration and ultimate disposal of veterinary medicines. Their units of account are the batch and the dose, rather than the animal or the illness. As such they are unsuited to assessing animal welfare or epidemiology at either the individual or herd level. As F17 put it, 'that's the thing

we don't have on the records; we don't have her past treatment record'. Templates are useful for compliance, but not much else:

If you want to use them as a management tool they are no good; they're no good (F10).

This mismatch between the demands of regulatory reporting and animal care was also acknowledged by some inspectors:

The reason the medicine books were set up as they are is just really following what the veterinary medicine regulations say: you need to keep the name or identification of the animal, what you gave it, when you gave it, withdrawal period. Because that is the law. It's not really done in a way that facilitates interpretation or monitoring of an animal. If farmers recorded everything more appropriately, such as weight of the animal or reason for treatment, they would see the value of the record instead of just recording what they need to record by law and getting annoyed with the fact that they've got to record something on a bit of paper (I1).

This inspector worried that record-keeping is decoupled from the wider goal of welfare. Keeping medicine records has become an end in itself, used for no other purpose than demonstrating compliance with record-keeping requirements. Farmers were quite upfront about this:

The actual writing of the medication down, the batch numbers, the lot numbers, the withdrawal periods, for me personally is meaningless... I just want to be legal for the farm assurance (F24).

Paperwork is meaningless for this farmer because it does nothing to inform farm practice. It is just about being legal. Caring for lame animals is something else entirely, as the reactions to the FHPs show quite clearly.

Farm health and welfare plans

Whereas mortality and medicines record-keeping is legally required by EU Directive, FHPs are a voluntary instrument developed by Defra. Despite these differences in origin and legal status, FHPs show a similar plasticity in their purpose. They were first promoted as biosecurity tools in the wake of the 2001 foot and mouth outbreak. In this context FHPs were all about 'keeping disease out of farms', though Defra (2001: 2) also noted that 'in the future [they] will become an important part of the "Farm to Fork" approach to ensuring food safety'. There was no reference to animal welfare.

Over the next few years, FHPs were recast as self-regulatory instruments for improving animal welfare. Defra's (2003b: 6) Codes of Recommendations for the Welfare of Livestock urges farmers to:

draw up a written health and welfare plan with the herd's vet... You should review and update your health and welfare plan at least once a year... The plan should include enough records to enable you to monitor and assess the health and welfare of the herd.

The Defra (2003b: 10, 23) code refers to FHPs nine times in all, providing extensive detail about what issues they 'should, as a minimum, look at' as well as instructions for how farmers should use them as part of a 'thorough assessment and planned approach' to animal welfare. By emphasizing ex ante planning, target-setting and progress monitoring, FHPs reinforce the 'behavioural script' (Akrich, 1992) for good farming described in the last two sections (cf. Phillipson et al., 2004). To deliver the 'longer term culture change whereby FHP become a routine feature of livestock management', Defra spent nearly

£3 million promoting FHPs as a more 'proactive' approach for improving animal welfare and for 'making animal keepers work closely with vets...to set targets for health and welfare and to measure, manage, and monitor productivity' (Osmond, 2009, paragraph 1.4, 1.6).

Given the very prominent role they accorded to the veterinary profession, it is not surprising that professionally certified veterinary inspectors think highly of FHPs. Echoing the anticipatory vision of good husbandry advocated by Defra, I1 explained how the FHP would help farmers take a more analytical approach to animal welfare:

That plan is not just about 'I'm going to get these pigs vaccinated at this age'. It's about 'I'm going to monitor the health and welfare of these animals' and 'I'm going to keep records'.

This view of record-keeping and monitoring as beneficial for the farmer was universal among the inspectors we interviewed:

most of the records we require are because we think that there is actually a benefit to the farmer for having them, so something like their health plan, we think that's actually a benefit for the business to have it documented, clearly explaining all the processes (I5).

But inspectors also conceded that farmers do not often see it that way, and so they work hard during inspections to 'make them understand that it is useful for them' (I4).

Although FHPs are not something they are required to check as part of any cross-compliance or animal welfare inspections, inspectors like to see them anyway. Their presence is taken as a sign that the farmer is meeting the required standards:

if you've got very good up to date well completed records, as the rule of thumb, the farm is quite good and you wouldn't expect there to be major welfare problems (I2).

The FHP provides tangible proof that the farmer has complied with Defra's (2003b: 2) recommendation that s/he 'should demonstrate caring and responsible planning and management'. However, those caring and planning processes that the physical FHP stands for necessarily escape direct inspection. All the inspector can ever do is audit the paperwork: 'they've got to have a proactive approach to health planning. That is normally demonstrated by them having a documented health plan' (I4). Inspectors are conscious of this slippage and look closely for gaps between farm paperwork and practice. I3 described inspection practice this way:

'the assessors, they are looking for a copy of the document on file, but I suppose in absence of the document they would be asking...about what do they do on farm to limit different issues, and they might ask that before they even look at the document, but they might look at the document afterwards and check that it links up with what the farmer's saying.

While it is possible to have an animal welfare plan without putting it to paper, assurance and audit require paperwork to prove that planning has been done and 'demonstrate that the farmer is proactively thinking about what they can do to manage potential problems on their farm' (I4).

The material FHP document serves other purposes that the planning processes it records cannot. If an inspector discovers welfare problems, the existence of the FHP is an important mitigating factor shaping inspector judgments about whether the farmer has violated WOFAR. As inspector I1 explained:

Even if they've got a massive problem, if they've got 30% lameness, there's evidence that they are doing something about it.

Seeing the FHP, inspectors are more likely to judge farmers as compliant with the WOFAR duty to take ‘all reasonable steps to ensure’ animal welfare. In the event of a criminal prosecution, the existence of the FHP is important for the farmer’s legal defence. Under the Animal Welfare Act 2006 s14(4b), compliance with a relevant provision of Defra’s (2003b) Code of Recommendations, such as having a FHP, ‘may be relied upon as tending to negative liability’. Such a ‘due diligence’ defence requires FHP paperwork to record what the farmer has done to satisfy the reasonableness duty of the statute.

Farmers readily acknowledged the value of the FHP as a physical record. As F11 explained, ‘it’s just sitting down and formalising what we’re doing, really...’ Similarly F9 said, ‘all it’s doing is recording what we do anyway’. For many farmers this accounting process is entirely externalized, as something ‘done by the vet’ (F13), so much so, in fact, that farmers sometimes struggled to say what – and where – their FHP actually was when interviewed about them. F18 needed to be reminded by the farm manager that ‘it’s what [name of vet] sends us after s/he has been for a visit’, prompting F18 to exclaim, ‘Ah! A vet report!’ F17 was equally befuddled when asked about the FHP:

Yes, well, the veterinary health plan, I think...let me see...[rummaging through the files] I don’t have a health plan here at the moment; I think it’s at home...it might be at home...that’ll be at home.

This indifference is not surprising, since the FHP is not something farmers are active in formulating. It is simply a collection of management protocols farmers are required to document. Farmers describe its function in terms of ‘backing up’, ‘confirming’ and providing a ‘historical picture’.

As such the FHP is something to be filed away, rather than actively used in day-to-day decision-making as Defra (2003b) and veterinary inspectors expect it should be. Asked if s/he ever used the FHP, F17 replied:

No. It’s just another thing that we have to keep – another item of paperwork, like all the other paperwork that we have to keep for so many years.

This was a universal view among all 25 farmers interviewed. The FHP is produced to demonstrate compliance:

To show my farm assurance man when he comes around every year, show I’ve got one (F15).

Complying with those external demands simply requires producing a piece of paper rather than actually using it for anything else.

This decoupling of means from ends also contributes to ‘policy-practice’ decoupling (Bromley and Powell, 2012), as the FHP tends both to lag behind and to drift away from the care practices it is supposed to inform and assure. Farmers complete their paperwork in fits and starts around the edges of their daily farm work. Daily farm work takes priority, and keeping records up-to-date is a constant challenge. When farmers sit down to do their paperwork there is then the challenge of reconstructing a coherent account of what has been done from the various notebooks, receipts and other files in which activities around the farm are recorded. It is those records that form the reference point for updating annually the FHP rather than the actual practices it is supposed to be informing *ex ante*. In turn, since inspectors look at the FHP paperwork

rather than any planning that might have gone into it, if discrepancies arise between what was recorded and what is recalled, it is the paperwork that prevails when inspectors judge compliance. As I4 explained:

When you're talking to [farmers], they will all say they are doing something, but if they have written it down on a piece of paper, that's another matter. They always say, 'it's all in my head. I don't need to do it.' And I say, 'well, you do need to show me on record'.

This tendency for audits to become decoupled from the practices they are supposed to control is now well documented (Power, 1997), though it has typically been explained in terms of institutional incentives to game compliance processes and avoid blame for failures (Bevan and Hood, 2006), rather than the materiality of the paperwork involved in assembling the records themselves.

This decoupling of farm paperwork and practice is also driven by farmers' understandings of good animal husbandry (Burton, 2004). Such ideals clearly vary – historical, national, sectorial and farm-size variations are all well documented in the literature (Demeritt, 1995; Haggerty et al., 2009; McGuire et al., 2012; Silvasti, 2003). Nevertheless the 25 farmers we interviewed were unanimous in seeing no practical use for FHPs. Rather than looking to their FHPs or other records to help them anticipate and manage animal welfare problems, farmers define stockmanship as the ability to do that intuitively. As F25 explained:

You don't go back and look at patterns because you see patterns as you go through really.

Good animal husbandry is all about anticipating problems and knowing how to deal with them. F13 was effusive on this point:

The stockman, if he's worth his money, knows if things are right, or if things are not right ... by what he sees, what he smells, what he hears ... Forget about tick-box recording. How are you going to record 100 pigs in the pen, and how many scratches they've got?

Records are no match for the intuition of the skilful farmer, who can smell trouble before it ever shows up in the records. By contrast recording-keeping is retrospective in its orientation, and so can only ever detect problems after the farmer has already dealt with them, when it isn't focused on recording the wrong things altogether.

Records, regulation and animal welfare

Our analysis highlights consistent differences between farmers and regulators in their engagements with the three major types of records used for statutory animal welfare regulation. Regulatory inspectors and veterinary experts frame record-keeping as an instrument for internal farm management rather than external regulation and assurance. They believe keeping records is beneficial for farmers and key to improving animal welfare. Accordingly, regulators tend to perceive regulatory record-keeping requirements as light touch because they assume farmers are already collecting them for their own use. In this self-effacing conceit, regulators frame audit as a process of simply peering over the farmer's shoulder to look at the farmer's own already existing records. Far from burdening farmers, regulatory record-keeping would be beneficial, if farmers would only use their records properly.

By contrast, farmers see record-keeping very differently. Notwithstanding differences in sector, farming style and scale, the farmers we interviewed consistently described welfare

records in terms of satisfying external accountability demands. While farmers do some record-keeping of their own, particularly related to farm productivity and work routines, welfare records are something they do for others rather than for their own purposes. Consequently, farmers perceive record-keeping requirements as burdensome, even if their importance for consumer confidence and biosecurity is generally accepted.

These competing perceptions both reflect and reinforce the different ways that regulatory inspectors and farmers engage with the physical records themselves. Despite their belief that animal welfare records are primarily management tools for the farmer, inspectors rely on them to make their own compliance judgments (Roe et al., 2011). Without veterinary expertise, auditors from the RPA and private certifiers tend to define compliance simply in terms of the presence of the records and their internal consistency with other records (RPA, 2014). But even the more expert inspectors from APHA use records in judging whether farmers are meeting the required welfare standards. As well as assessing compliance with formal record-keeping requirements, APHA inspectors also scrutinize the quality of farmers' paperwork in the belief that it is central to farm management and therefore provides a crucial indicator of welfare standards and of farmers' efforts to meet them. The generative quality of materials allows the records to speak for the farmers' diligence and professionalism as well as the quality of animal care they are providing. In both respects, therefore, records are central to inspectors' practices for assessing regulatory compliance.

Farmers, in turn, understand this and try to organize their record-keeping to comply with those external demands. However, farmers see welfare records as secondary to animal husbandry, in the sense both of being less important than minding their actual stock and also of coming afterwards to document for others what the farmer already knows to have been done. Partly as a result, there is a tendency for on-farm animal care to become decoupled from the paperwork generated to demonstrate regulatory compliance.

While this decoupling is now a familiar staple of academic critique (Power, 1997; Strathern, 2000), scholars have not always been careful enough to distinguish the different forms it takes, which involve different drivers with different consequences for animal welfare and the goals of better regulation. Bromley and Powell (2012) distinguish two kinds of decoupling. The first, 'policy-practice decoupling', whereby formal policies are ignored in actual practice, is often attributed to strategic behaviour, such as calculated non-compliance (Braithwaite, 1982) and audit target manipulation (Bevan and Hood, 2006), or to institutional dynamics that normalize deviance and buffer organizational routines from external scrutiny (Vaughan, 1996). While farmers did not always comply with formal record-keeping requirements, sometimes confusing by-products and movement records with mortality records for example, we found no evidence for the sort of systematic gaming of audit controls that have plagued banking regulation (Miles, 2013), where huge incentives for noncompliance are countered by eye-watering fines for firms caught cheating. By contrast, in animal welfare the penalties for record-keeping violations are low – just a 3% reduction in CAP subsidy payment – as are the chances of detection, since barely 1% of farms are subject to random cross-compliance inspections. Governments are understandably reluctant to punish farmers for minor paperwork violations, so if violations are common, this is at least partly because sanctions to deter non-compliance are weak.

For its part, Defra (2014) has pledged to reduce and simplify record-keeping requirements to make compliance easier, but efforts to increase compliance by repurposing existing records have made decoupling worse. In keeping with better regulation principles for reducing administrative burdens, the Welfare Directive allows farmers to satisfy its

record-keeping requirements with 'equivalent information...kept for other purposes'. In practice, however, this policy of flexibility has led to confusion among both farmers and inspectors alike about what regulatory record-keeping is required to satisfy the law. Farmers are sometimes confused about the proliferation of record-keeping requirements to which they are subject, while expert veterinary inspectors complain that even when a farmer's record-keeping is formally compliant, it is rarely sufficient to drive real improvements in animal welfare.

Thus, in addition to this first kind of 'policy-practice decoupling', animal welfare regulation is also hampered by a second kind of 'means-ends decoupling' (Bromley and Powell, 2012), whereby regulatory requirements do not deliver their intended outcome. Even perfect paperwork is no guarantee of good animal welfare. The law simply requires farmers to keep records; they are not obligated to use them, as inspectors and animal welfare experts assume they would and should.

Our research identifies two reasons for such means-ends decoupling of farmers' regulatory record-keeping from their practices of animal care. First, farmers understand keeping records and caring for animals as two distinct and largely unrelated practices. Farmers keep records to satisfy external demands for assurance about what they themselves already know about the welfare of their animals from their own daily experience of caring for them. That direct relationship with their animals is the basis for good welfare outcomes, farmers insist. Farmers care for their animals by seeing, smelling and listening to them directly, not through paperwork and analysing records at second-hand. This is a very different script for good animal husbandry to the one promoted by government regulators and veterinary experts and hard wired into record-keeping requirements in the hope that they will encourage farmers to use their records as part of a more analytical approach to animal welfare based on 'responsible planning and management' (Defra, 2003a: 2). However, these record-keeping requirements are unlikely to spur the desired response from farmers until they are better aligned with farmer's own understandings of what it means to be a good farmer and to care for animals well.

Second, even if farmers were inclined to use their records to drive improvements in animal welfare, their physical form makes it difficult to do so. The requirement to record daily medicine usage, for example, results in chronological records that account for bottles, batches and doses but are unhelpful for cross-sectional analysis to detect herd-level trends, or trace the treatment history of individual animals. Likewise, the information required to discharge the WOFAR requirement for farmers to note 'the number of mortalities found at each inspection' is not sufficient for the kind of epidemiological analysis needed to improve animal health and welfare, because the age and location of deaths is not recorded. Farmers could, of course, record this additional information as well, but see no reason to do more than is required for compliance. Governments might require farmers to record this information as well, but that would add cost without addressing the problem of getting farmers actually to use the information they are already required to collect. A more promising approach would heed the Macdonald et al. (2011, paragraph 5.17) review recommendation that government work collaboratively with farmers to redesign the format of the information required for assurance to make it easier to collect and use. This kind of participatory, co-production approach has proved useful in a number of other regulatory contexts (Hardy, 2011; Lemos et al., 2012; Nobert et al., 2010). But as long as animal welfare regulation relies on auditing physical records as a proxy for the rather less tangible goal of good animal welfare, it will always be prone to means-ends decoupling.

Conclusion

The case of animal welfare illustrates the practical difficulties of audit-based approaches to regulatory assurance. To provide a basis for assessing compliance with its broad standards, the Welfare Directive also requires farmers to keep various records and make them available for external inspection. Farmers resent the resulting paperwork as burdensome, and record-keeping violations are the most common animal welfare breach recorded in random cross-compliance inspections in England. Moreover, these requirements are substantially decoupled from both the on-farm practice of delivering animal care and from the wider goals of animal welfare regulation itself. This tendency for audit processes to become decoupled from the qualities they are meant to assure has been noted by other critics of audit (Davey and Richards, 2013; Power, 1997; Strathern, 2000), though without always distinguishing carefully enough between the decoupling of policy from practice and of means from ends.

Animal welfare regulation suffers from both kinds of decoupling, and by adopting an STS-inspired approach we have shown how the pathologies of audit are exacerbated by the materiality of paperwork itself, which has resisted better regulation strategies for reducing red tape. Efforts to ease administrative burdens by auditing already existing records have resulted in record-keeping requirements and inspection processes that are unsuited either to judging whether welfare standards are actually being met or to informing farmers' own animal care practices. Nevertheless, as part of its ongoing commitment to reducing administrative burdens on agriculture, Defra (2013a) is committed to making more use farmers' own internal record-keeping for an ever expanding list of regulatory purposes. Our analysis suggests that these reforms are likely to fail not simply because their goals of less and yet somehow 'better' regulation are in strong tension with each other, but also because of the difficulties involved in repurposing paperwork created for one purpose so as to provide regulatory assurance of something else.

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Notes

1. At the time of our research APHA was known as the Animal Health and Veterinary Agency (AHVLA), but for clarity we refer to it, somewhat anachronistically, as APHA throughout the article.
2. Whereas cross-compliance breaches due to negligence incur a 3% reduction in CAP Single Payment Scheme subsidy per violation, the penalty for intentional violations is 20%, with tariffs adjusted upwards or downwards depending on the extent, severity and permanence of the violation.

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